We Claim:

1. A method of delivering a medicant to an abnormal brain region in a mammalian subject, comprising:

administering to a mammalian subject having an abnormal brain region a potassium channel activator selected from the group consisting of

(A) activators of soluble guanylyl cyclase; and

(B) activators of cyclic GMP-dependent protein kinase,

under conditions and in an amount sufficient to increase the permeability to the medicant of a capillary or arteriole delivering blood to cells of the abnormal brain region; and

administering to the subject simultaneously or substantially simultaneously with the potassium channel activator the medicant, so that the medicant is delivered selectively to the cells of the abnormal brain region compared to normal brain regions.

2. The method of Claim 1, wherein the abnormal brain region is a region of brain tissue physiologically affected by injury, trauma, infection, stroke, or ischemia.

3. The method of Claim 1, wherein the abnormal brain region is a region of benign or malignant tumor tissue.

4. The method of Claim 1, wherein the activator of guanylyl cyclase is nitric oxide or a nitric oxide donor.

5. The method of Claim 4, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

6. The method of Claim 5, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

7. The method of Claim 5, wherein the iron nitrosyl compound is sodium nitroprusside.

8. The method of Claim 5, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

9. The method of Claim 5, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

10. The method of Claim 5, wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate, spermine-NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli-NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

11. The method of Claim 1, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

12. The method of Claim 1, wherein said mammal is a human, non-human primate, canine, feline, bovine, porcine, ovine, mouse, rat, gerbil, hamster, or rabbit.

13. The method of Claim 1, wherein the medicant is a therapeutic cytotoxic agent, DNA expression vector, viral vector, protein, oligonucleotide, nucleotide analog, antimicrobial agent, interferon, cytokine, cytokine agonist, cytokine antagonist, immunotoxin, immunosuppressant, boron compound, monoclonal antibody, adrenergic agent, anticonvulsant, ischemia-protective agent, anti-trauma agent, anticancer chemotherapeutic agent, or diagnostic agent.

14. The method of Claim 13, wherein the diagnostic agent is an imaging or contrast agent.

15. The method of Claim 13, wherein the diagnostic agent is a radioactively labeled substance, a gallium-labeled substance, or a contrast agent selected from the group consisting of ferrous magnetic, fluorescent, luminescent, and iodinated contrast agents.

16. The method of Claim 1, wherein the medicant is a N-methyl-D-aspartate (NMDA) receptor antagonist, antibiotic, interleukin-2; or transforming growth factor-β, cisplatin, carboplatin, tumor necrosis factor-α, methotrexate, 5-fluorouracil, amphotericin, daunorubicin, doxorubicin, vincristine, vinblastine, busulfan, chlorambucil, cyclophosphamide, melphalan, or ethyl ethanesulfonic acid.

17. The method of Claim 13, wherein the viral vector is an adenovirus-derived vector or herpes simplex virus-derived vector.

18. The method of Claim 1, wherein administering the potassium channel activator is by intravenous or intra-arterial infusion or injection.

19. The method of Claim 1, wherein administering the potassium channel activator is by intracarotid infusion or injection.

20. The method of Claim 1, wherein the potassium channel activator is administered to the mammalian subject by a bolus injection.

21. The method of Claim 1, wherein the potassium channel activator is administered to the mammalian subject in an amount from about 0.075 to 1500 micrograms per kilogram body mass.

22. The method of Claim 21, wherein the potassium channel activator is administered to the subject in an amount from about 0.075 to 150 micrograms per kilogram body mass.

23. The method of Claim 1, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 100 $\mu g\ kg^{-1}\ min^{-1}$ for up to about 30 minutes.

24. The method of Claim 23, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 15 $\mu g\ kg^{-1}\ min^{-1}$.

25. A method of selectively delivering a medicant to an abnormal brain region in a mammalian subject, comprising:

administering to a mammalian subject having an abnormal brain region a potassium channel activator selected from the group consisting essentially of nitric oxide, nitric oxide donors and activators of cyclic GMP-dependent protein kinase, under conditions and in an amount sufficient to increase potassium flux through a calcium-activated or ATP-sensitive potassium channel in an endothelial cell membrane of a capillary or arteriole delivering blood to cells of the abnormal brain region, whereby the capillary or arteriole is made more permeable to the medicant; and

administering to the subject simultaneously or substantially simultaneously with the potassium channel activator the medicant, so that the medicant is delivered selectively to the cells of the abnormal brain region compared to normal brain regions.

26. The method of Claim 25, wherein the abnormal brain region is a region of brain tissue physiologically affected by injury, trauma, infection, stroke, or ischemia.

27. The method of Claim 25, wherein the abnormal brain region is a region of benign or malignant tumor tissue.

28. The method of Claim 25, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

29. The method of Claim 28, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

30. The method of Claim 28, wherein the iron nitrosyl compound is sodium nitroprusside.

31. The method of Claim 28, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

32. The method of Claim 28, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

33. The method of Claim 28, wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate, spermine-NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli-NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

34. The method of Claim 25, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

35. The method of Claim 25, wherein said mammal is a human, non-human primate, canine, feline, bovine, porcine, ovine, mouse, rat, gerbil, hamster, or rabbit.

36. The method of Claim 25, wherein the medicant is a therapeutic cytotoxic agent, DNA expression vector, viral vector, protein, oligonucleotide, nucleotide analog, antimicrobial agent, interferon, cytokine, cytokine agonist, cytokine antagonist, immunotoxin, immunosuppressant, boron compound, monoclonal antibody, adrenergic

agent, anticonvulsant, ischemia-protective agent, anti-trauma agent, anticancer chemotherapeutic agent, or diagnostic agent.

37. The method of Claim 36, wherein the diagnostic agent is an imaging or contrast agent.

38. The method of Claim 36, wherein the diagnostic agent is a radioactively labeled substance, a gallium-labeled substance, or a contrast agent selected from the group consisting of ferrous magnetic, fluorescent, luminescent, and iodinated contrast agents.

39. The method of Claim 25, wherein the medicant is a N-methyl-D-aspartate (NMDA) receptor antagonist, antibiotic, interleukin-2; or transforming growth factor-β, cisplatin, carboplatin, tumor necrosis factor-α, methotrexate, 5-fluorouracil, amphotericin, daunorubicin, doxorubicin, vincristine, vinblastine, busulfan, chlorambucil, cyclophosphamide, melphalan, or ethyl ethanesulfonic acid.

40. The method of Claim 36, wherein the viral vector is an adenovirus-derived vector or herpes simplex virus-derived vector.

41. The method of Claim 25, wherein administering the potassium channel activator is by intravenous or intra-arterial infusion or injection.

42. The method of Claim 25, wherein administering the potassium channel activator is by intracarotid infusion or injection.

43. The method of Claim 25, wherein the potassium channel activator is administered to the mammalian subject by a bolus injection.

44. The method of Claim 25, wherein the potassium channel activator is administered to the mammalian subject in an amount from about 0.075 to 1500 micrograms per kilogram body mass.

45. The method of Claim 44, wherein the potassium channel activator is administered to the subject in an amount from about 0.075 to 150 micrograms per kilogram body mass.

46. The method of Claim 25, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 100 $\mu g\ kg^{-1}\ min^{-1}$ for up to about 30 minutes.

47. The method of Claim 46, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 15 $\mu g\ kg^{-1}\ min^{-1}$.

48. A method of delivering a medicant to a malignant tumor in a mammalian subject, comprising:

administering to a mammalian subject having a malignant tumor a potassium channel activator selected from the group consisting of

(A) activators of soluble guanylyl cyclase; and

(B) activators of cyclic GMP-dependent protein kinase, under conditions and in an amount sufficient to increase the permeability to the medicant of a capillary or arteriole delivering blood to cells of the malignant tumor; and

administering to the subject simultaneously or substantially simultaneously with the potassium

channel activator the medicant, so that the medicant is delivered selectively to the malignant cells compared to non-malignant cells.

49. The method of Claim 48, wherein the activator of soluble guanylyl cyclase is nitric oxide or a nitric oxide donor.

50. The method of Claim 49, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

51. The method of Claim 50, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

52. The method of Claim 50, wherein the iron nitrosyl compound is sodium nitroprusside.

53. The method of Claim 50, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

54. The method of Claim 50, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

55. The method of Claim 50, wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate, spermine-NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli-NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

56. The method of Claim 48, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

57. The method of Claim 48, wherein the malignant tumor is a glioma, glioblastoma, oligodendroglioma, astrocytoma, ependymoma, primitive neuroectodermal tumor, atypical meningioma, malignant meningioma, neuroblastoma, sarcoma, melanoma, lymphoma, or carcinoma.

58. The method of Claim 48, wherein the malignant tumor is contained in the skull, brain, spine, thorax, lung, peritoneum, prostate, ovary, uterus, breast, stomach, liver, bowel, colon, rectum, bone, lymphatic system, or skin, of said subject.

59. The method of Claim 48, wherein said mammal is a human, non-human primate, canine, feline, bovine, porcine, ovine, mouse, rat, gerbil, hamster, or rabbit.

60. The method of Claim 48, wherein the medicant is a therapeutic cytotoxic agent, DNA expression vector, viral vector, protein, oligonucleotide, nucleotide analog, antimicrobial agent, interferon, cytokine, cytokine agonist, cytokine antagonist, immunotoxin, immunosuppressant, boron compound, monoclonal antibody, adrenergic agent, anticonvulsant, ischemia-protective agent, anti-trauma agent, anticancer chemotherapeutic agent, or diagnostic agent.

61. The method of Claim 60, wherein the diagnostic agent is an imaging or contrast agent.

62. The method of Claim 60, wherein the diagnostic agent is a radioactively labeled substance, a gallium-labeled substance, or a contrast agent selected from the group consisting of ferrous magnetic, fluorescent, luminescent, and iodinated contrast agents.

63. The method of Claim 48, wherein the medicant is a Nmethyl-D-aspartate (NMDA) receptor antagonist, antibiotic, interleukin-2; or transforming growth factor-β, cisplatin, carboplatin, tumor necrosis factor-α, methotrexate, 5-fluorouracil, amphotericin, daunorubicin, doxorubicin, vincristine, vinblastine, busulfan, chlorambucil, cyclophosphamide, melphalan, or ethyl ethanesulfonic acid.

64. The method of Claim 60, wherein the viral vector is an adenovirus-derived vector or herpes simplex virus-derived vector.

65. The method of Claim 48, wherein administering the potassium channel activator is by intravenous or intra-arterial infusion or injection.

66. The method of Claim 48, wherein the tumor is an intracranial tumor and the potassium channel activator is administered by intracarotid infusion or injection.

67. The method of Claim 48, wherein the potassium channel activator is administered to the mammalian subject by a bolus injection.

68. The method of Claim 48, wherein the potassium channel activator is administered to the mammalian subject in an amount from about 0.075 to 1500 micrograms per kilogram body mass.

69. The method of Claim 68, wherein the potassium channel activator is administered to the mammalian subject in an amount from about 0.075 to 150 micrograms per kilogram body mass.

70. The method of Claim 48, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 100 $\mu g\ kg^{-1}\ min^{-1}$ for up to about 30 minutes.

71. The method of Claim 70, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 15 $\mu g\ kg^{-1}\ min^{-1}$.

72. A method of delivering a medicant to a malignant tumor in a mammalian subject, comprising:

administering to the mammalian subject having a malignant tumor a potassium channel activator selected from the group consisting essentially of nitric oxide donors and activators of cyclic GMP-dependent protein kinase, under conditions and in an amount sufficient to increase potassium flux through a calcium-activated or ATP-sensitive potassium

channel in an endothelial cell membrane of a capillary or arteriole delivering blood to malignant cells of the tumor, whereby the capillary or arteriole is made more permeable to the medicant; and

administering to the subject simultaneously or substantially simultaneously with the potassium channel activator the medicant, so that the medicant is delivered selectively to the malignant cells compared to non-malignant cells.

73. The method of Claim 72, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

74. The method of Claim 73, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

75. The method of Claim 73, wherein the iron nitrosyl compound is sodium nitroprusside.

76. The method of Claim 73, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

77. The method of Claim 73, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

78. The method of Claim 73, wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate, spermine-NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli-NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

79. The method of Claim 72, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

80. The method of Claim 72, wherein the malignant tumor is a glioma, glioblastoma, oligodendroglioma, astrocytoma, ependymoma, primitive neuroectodermal tumor, atypical meningioma, malignant meningioma, neuroblastoma, sarcoma, melanoma, lymphoma, or carcinoma.

81. The method of Claim 72, wherein the malignant tumor is contained in the skull, brain, spine, thorax, lung, peritoneum, prostate, ovary, uterus, breast, stomach, liver, bowel, colon, rectum, bone, lymphatic system, or skin, of said subject.

82. The method of Claim 72, wherein said mammal is a human, non-human primate, canine, feline, bovine, porcine, ovine, mouse, rat, gerbil, hamster, or rabbit.

83. The method of Claim 72, wherein the medicant is a therapeutic cytotoxic agent, DNA expression vector, viral vector, protein, oligonucleotide, nucleotide analog, antimicrobial agent, interferon, cytokine, cytokine agonist, cytokine antagonist, immunotoxin, immunosuppressant, boron compound, monoclonal antibody, adrenergic agent, anticonvulsant, ischemia-protective agent, anti-trauma agent, anticancer chemotherapeutic agent, or diagnostic agent.

84. The method of Claim 83, wherein the diagnostic agent is an imaging or contrast agent.

85. The method of Claim 83, wherein the diagnostic agent is a radioactively labeled substance, a gallium-labeled substance, or a contrast agent selected from the group consisting of ferrous magnetic, fluorescent, luminescent, and iodinated contrast agents.

86. The method of Claim 72, wherein the medicant is a Nmethyl-D-aspartate (NMDA) receptor antagonist, antibiotic, interleukin-2; or transforming growth factor-β, cisplatin, carboplatin, tumor necrosis factor-α, methotrexate, 5-fluorouracil, amphotericin, daunorubicin, doxorubicin, vincristine, vinblastine, busulfan, chlorambucil, cyclophosphamide, melphalan, or ethyl ethanesulfonic acid.

87. The method of Claim 83, wherein the viral vector is an adenovirus-derived vector or herpes simplex virus-derived vector.

88. The method of Claim 72, wherein administering the potassium channel activator is by intravenous or intra-arterial infusion or injection.

89. The method of Claim 72, wherein the tumor is an intracranial tumor and the potassium channel activator is administered by intracarotid infusion or injection.

90. The method of Claim 72, wherein the potassium channel activator is administered to the mammalian subject by a bolus injection.

91. The method of Claim 72, wherein the potassium channel activator is administered to the mammalian subject in an amount from about 0.075 to 1500 micrograms per kilogram body mass.

92. The method of Claim 91, wherein the potassium channel activator is administered to the mammalian subject in an amount from about 0.075 to 150 micrograms per kilogram body mass.

93. The method of Claim 72, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 100 μg kg-1 min^{-1} for up to about 30 minutes.

94. The method of Claim 93, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 15 $\mu g\ kg^{-1}\ min^{-1}$.

95. A method of treating a malignant tumor in a human subject, comprising:

administering to a human subject having a malignant tumor a potassium channel activator, selected from the group consisting essentially of nitric oxide, nitric oxide donors, and activators of cyclic GMP-dependent protein kinase, under conditions and in an amount sufficient to increase the permeability to the medicant of a capillary or arteriole delivering blood to cells of the malignant tumor; and

administering to the subject simultaneously or substantially simultaneously with the potassium channel activator the medicant, so that the medicant is delivered selectively to the malignant cells compared to non-malignant cells.

96. The method of Claim 95, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

97. The method of Claim 96, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

98. The method of Claim 96, wherein the iron nitrosyl compound is sodium nitroprusside.

99. The method of Claim 96, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

100. The method of Claim 96, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

101. The method of Claim 96,wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate, spermine-NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli-NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

102. The method of Claim 95, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

103. The method of Claim 95, wherein the malignant tumor is a glioma, glioblastoma, oligodendroglioma, astrocytoma, ependymoma, primitive neuroectodermal tumor, atypical meningioma, malignant meningioma, neuroblastoma, sarcoma, melanoma, lymphoma, or carcinoma.

104. The method of Claim 95, wherein the malignant tumor is contained in the skull, brain, spine, thorax, lung, peritoneum, prostate, ovary, uterus, breast, stomach, liver, bowel, colon, rectum, bone, lymphatic system, or skin, of said subject.

105. The method of Claim 95, wherein the medicant is a therapeutic cytotoxic agent, DNA expression vector, viral vector, protein, oligonucleotide, nucleotide analog, antimicrobial agent, interferon, cytokine, cytokine agonist, cytokine antagonist, immunotoxin, immunosuppressant, boron compound, monoclonal antibody, adrenergic agent, anticonvulsant, ischemia-protective agent, anti-trauma agent, anticancer chemotherapeutic agent, or diagnostic agent.

106. The method of Claim 105, wherein the diagnostic agent is an imaging or contrast agent.

107. The method of Claim 105, wherein the diagnostic agent is a radioactively labeled substance, a gallium-labeled substance, or a contrast agent selected from the group consisting of ferrous magnetic, fluorescent, luminescent, and iodinated contrast agents.

108. The method of Claim 95, wherein the medicant is a Nmethyl-D-aspartate (NMDA) receptor antagonist, antibiotic, interleukin-2; or transforming growth factor-β, cisplatin, carboplatin, tumor necrosis factor-α, methotrexate, 5-fluorouracil, amphotericin, daunorubicin, doxorubicin, vincristine, vinblastine, busulfan, chlorambucil, cyclophosphamide, melphalan, or ethyl ethanesulfonic acid.

109. The method of Claim 105, wherein the viral vector is an adenovirus-derived vector or herpes simplex virus-derived vector.

110. The method of Claim 95, wherein administering the potassium channel activator is by intravenous or intra-arterial infusion or injection.

111. The method of Claim 95, wherein the tumor is an intracranial tumor and the potassium channel activator is administered by intracarotid infusion.

112. The method of Claim 95, wherein the potassium channel activator is administered to the mammalian subject by a bolus injection.

113. The method of Claim 95, wherein the potassium channel activator is administered to the subject in an amount from about 0.075 to 150 micrograms per kilogram body mass.

114. The method of Claim 95, wherein the potassium channel activator is administered to the subject at a dose rate of about 0.075 to about 15 $\mu g\ kg^{-1}\ min^{-1}$.

115. A method of treating a malignant tumor in a human subject, comprising:

administering to a human subject, having a malignant tumor, a potassium channel activator selected from the group consisting essentially of nitric oxide, nitric oxide donors, and activators of cyclic GMP-dependent protein kinase, under conditions and in an amount sufficient to increase potassium flux through a calcium-activated or ATP-sensitive potassium channel in an endothelial cell membrane of a capillary or arteriole delivering blood to malignant cells of the malignant tumor, whereby the capillary or arteriole is made more permeable to the medicant; and

administering to the subject simultaneously or substantially simultaneously with the potassium channel activator the medicant, so that the medicant is delivered selectively to the malignant cells compared to non-malignant cells.

116. The method of Claim 115, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

117. The method of Claim 116, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

118. The method of Claim 116, wherein the iron nitrosyl compound is sodium nitroprusside.

119. The method of Claim 116, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

120. The method of Claim 116, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

121. The method of Claim 116,wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate,

spermine-NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli-NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

122. The method of Claim 115, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

123. The method of Claim 115, wherein the malignant tumor is a glioma, glioblastoma, oligodendroglioma, astrocytoma, ependymoma, primitive neuroectodermal tumor, atypical meningioma, malignant meningioma, neuroblastoma, sarcoma, melanoma, lymphoma, or carcinoma.

124. The method of Claim 115, wherein the malignant tumor is contained in the skull, brain, spine, thorax, lung, peritoneum, prostate, ovary, uterus, breast, stomach, liver, bowel, colon, rectum, bone, lymphatic system, or skin, of said subject.

125. The method of Claim 115, wherein the medicant is a therapeutic cytotoxic agent, DNA expression vector, viral vector, protein, oligonucleotide, nucleotide analog, antimicrobial agent, interferon, cytokine, cytokine agonist, cytokine antagonist, immunotoxin, immunosuppressant, boron compound, monoclonal antibody, adrenergic agent, anticonvulsant, ischemia-protective agent, anti-trauma agent, anticancer chemotherapeutic agent, or diagnostic agent.

126. The method of Claim 125, wherein the diagnostic agent is an imaging or contrast agent.

127. The method of Claim 125, wherein the diagnostic agent is a radioactively labeled substance, a gallium-labeled substance, or a contrast agent selected from the group consisting of ferrous magnetic, fluorescent, luminescent, and iodinated contrast agents.

128. The method of Claim 115, wherein the medicant is a Nmethyl-D-aspartate (NMDA) receptor antagonist, antibiotic, interleukin-2; or transforming growth factor-β, cisplatin, carboplatin, tumor necrosis factor-α, methotrexate, 5-fluorouracil, amphotericin, daunorubicin, doxorubicin, vincristine, vinblastine, busulfan, chlorambucil, cyclophosphamide, melphalan, or ethyl ethanesulfonic acid.

129. The method of Claim 125, wherein the viral vector is an adenovirus-derived vector or herpes simplex virus-derived vector.

130. The method of Claim 115, wherein administering the potassium channel activator is by intravenous or intra-arterial injection.

131. The method of Claim 115, wherein the tumor is an intracranial tumor and the potassium channel activator is administered by intracarotid infusion.

132. The method of Claim 115, wherein the potassium channel activator is administered to the mammalian subject by a bolus injection.

133. The method of Claim 115, wherein the potassium channel activator is administered to the subject in an amount from about 0.075 to 150 micrograms per kilogram body mass.

134. The method of Claim 115, wherein the potassium channel activator is administered to the mammalian subject at a dose rate of about 0.075 to about 15 $\mu g\ kg^{-1}\ min^{-1}$.

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135. A pharmaceutical composition comprising a combination of a potassium channel activator selected from the group consisting of activators of soluble guanylyl cyclase and activators of cyclic GMP-dependent protein kinase, formulated in a pharmaceutically acceptable solution together with a medicant for delivery by intravascular infusion or injection into a mammal.

136. The pharmaceutical composition of Claim 135, wherein the solution is formulated to deliver a dose rate of about 0.075 to 1500 micrograms of the potassium channel activator per kilogram body mass in a pharmaceutically acceptable fluid volume over a maximum of about thirty minutes.

137. The pharmaceutical composition of Claim 135, wherein the solution is formulated to deliver a dose rate of about 0.075 to 150 micrograms of the potassium channel activator per kilogram body mass in a pharmaceutically acceptable fluid volume over a period of up to thirty minutes.

138. The pharmaceutical composition of Claim 135, wherein the activator of soluble guanylyl cyclase is nitric oxide or a nitric oxide donor.

139. The pharmaceutical composition of Claim 135, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

140. The pharmaceutical composition of Claim 139, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

141. The pharmaceutical composition of Claim 139, wherein the iron nitrosyl compound is sodium nitroprusside.

142. The pharmaceutical composition of Claim 139, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

143. The pharmaceutical composition of Claim 139, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

144. The pharmaceutical composition of Claim 139, wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate, spermine- NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli- NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

145. The pharmaceutical composition of Claim 135, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

146. The pharmaceutical composition of Claim 135, wherein the medicant is a therapeutic cytotoxic agent, DNA expression vector, viral vector, protein, oligonucleotide, nucleotide analog, antimicrobial agent, interferon, cytokine, cytokine agonist, cytokine antagonist, immunotoxin, immunosuppressant, boron compound, monoclonal antibody, adrenergic agent, anticonvulsant, ischemia-protective agent, anti-trauma agent, anticancer chemotherapeutic agent, or diagnostic agent.

147. The pharmaceutical composition of Claim 146, wherein the diagnostic agent is an imaging or contrast agent.

148. The pharmaceutical composition of Claim 146, wherein the diagnostic agent is a radioactively labeled substance, a gallium-labeled substance, or a contrast agent selected from the group consisting of ferrous magnetic, fluorescent, luminescent, and iodinated contrast agents.

149. The pharmaceutical composition of Claim 135, wherein the medicant is a Nmethyl-D-aspartate (NMDA) receptor antagonist, antibiotic, interleukin-2; or transforming growth factor-β, cisplatin, carboplatin, tumor necrosis factor-α, methotrexate, 5-fluorouracil, amphotericin, daunorubicin, doxorubicin, vincristine, vinblastine, busulfan, chlorambucil, cyclophosphamide, melphalan, or ethyl ethanesulfonic acid.

150. The pharmaceutical composition of Claim 146, wherein the viral vector is an adenovirus-derived vector or herpes simplex virus-derived vector.

151. The pharmaceutical composition of Claim 135, further comprising a buffer solution pharmaceutically acceptable for intravascular infusion into a mammal.

152. The pharmaceutical composition of Claim 152, wherein the buffer solution is phosphate buffered saline.

153. A kit for enhancing the delivery of a medicant to an abnormal brain region and/or to a malignant tumor, comprising:

a potassium channel activator selected from the group consisting of activators of soluble guanylyl cyclase and activators of cyclic GMP-dependent protein kinase; and

instructions for using the potassium channel activator for enhancing the delivery of a medicant to an abnormal brain region or to a malignant tumor.

154. The kit of Claim 153, wherein the activator of soluble guanylyl cyclase is nitric oxide or a nitric oxide donor.

155. The kit of Claim 154, wherein the nitric oxide donor is selected from the group consisting of organic nitrate compounds, iron nitrosyl compounds, S-nitrosothiol compounds, sydnonimine compounds, and NONOate compounds.

156. The kit of Claim 155, wherein the organic nitrate compound is glyceryl trinitrate, nitroglycerin, pentaerythrityl tetranitrate, isosorbide dinitrate, or isosorbide 5-mononitrate.

157. The kit of Claim 155, wherein the iron nitrosyl compound is sodium nitroprusside.

158. The kit of Claim 155, wherein the sydnonimine compound is molsidomine, linsidomine, or pirsidomine.

159. The kit of Claim 155, wherein the S-nitrosothiol compound is S-nitroso-N-acetyl-D,L-penicillamine, S-nitrosoglutathione, S-nitrosoalbumin, or S-nitrosocysteine.

160. The kit of Claim 155,wherein the NONOate compound is diethylamine-NONOate, diethylene triamine-NONOate, dipropylenetriamine-NONOate, spermine-NONOate, propylamino-propylamine-NONOate, MAHMA-NONOate, piperazi-NONOate, proli-NONOate, sulfo-NONOate, Angelis salt, or sulfite NONOate.

161. The kit of Claim 153, wherein the activator of cyclic GMP-dependent protein kinase is selected from the group consisting of octobromo-cyclic GMP and dibutyryl cyclic GMP.

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